



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/388,605	09/02/1999	TOUKO KASAHARA	1114-133	4217

23117 7590 07/07/2003

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

DUONG, TAI V

ART UNIT PAPER NUMBER

2871

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/388,605

Applicant(s)

KASAHARA ET AL.

Examiner

TAI DUONG

Art Unit

2871

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-36 is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9, 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2871

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 and 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 6, 11, 15 and 17 are inconsistent with the specification disclosure. Claims 1, 6, 11, 15 and 17 recite the feature "an interlayer insulating film formed so as to at least partially cover the data/scan signal transmission lines and the transistor" while the specification does not disclose an embodiment which has an interlayer insulating film formed so as to partially cover the data/scan signal transmission lines and the transistor. The specification only discloses the embodiments wherein an interlayer insulating film formed so as to completely cover the data/scan signal transmission lines and the transistor. The phrase "at least" means "at the minimum". The specification only discloses "the maximum (completely cover)". Therefore, the above feature is not true or not consistent with the specification disclosure. See M.P.E.P. 2173.03. The same issue is also applied to the phrase "wherein the interlayer insulating film and liquid crystal layer are disposed so as to overlie at least part of the drain electrode" of claims 1 and 6 , and the feature "the liquid crystal layer is disposed so as to overlie at least part of a diverted portion which is diverted from the auxiliary capacitance line" of claim 11. The instant drawings and the instant specification disclose only the embodiments wherein the interlayer insulating film and the liquid crystal layer overlie entirely the drain electrode, and the liquid crystal layer overlies entirely the

diverted portion. The remaining claims are also rejected since they depend on the indefinite claims.

Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structural connection of the auxiliary capacitance line with respect to the previously recited elements in claim 18 in order to make the claimed liquid crystal display apparatus to be operable as intended. In claim 26 (which depends on claim 25), it is unclear whether the recited "an auxiliary capacitance line" is an additional auxiliary capacitance line (two auxiliary capacitance lines).

The examiner agrees with Applicant's remarks that "at least part" encompasses both the case of partial overlayment and the case of complete overlayment. However, the case of partial overlayment is inconsistent with the specification because the specification discloses only the case of complete overlayment. If the instant specification discloses both the case of partial overlayment and the case of complete overlayment, the claims are consistent with the specification disclosure. The claims are "generic" to both cases.

In the below prior art rejections, the phrase "at least part" is interpreted as to encompass the case of "complete overlayment", according to Applicant's remarks on page 29 of the Amendment. The term "potential" in the phrase "potential correction site"

is broadly interpreted as “capable of being, but not yet in existence” (Webster’s II New Riverside University Dictionary).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3, 5, 6-8, 10 and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujikawa et al (US 5,995,178).

In this rejection, the term “opening” is interpreted as “cutaways” (cut-portion), in light of the specification, page 33, lines 6-9.

Note Figs. 15A-B which identically disclose the claimed LCD apparatus comprising a pixel electrode 305 being provided with an opening 305a formed in a region thereof on at least part of the drain electrode (lower left 305a), the pixel electrode

Art Unit: 2871

being electrically connected to the drain electrode of the TFT via a contact hole 323 (lower left 323) which is provided in the interlayer insulating film 321 wherein the interlayer insulating film and the LC layer 319 are disposed so as to overlie the drain electrode (col. 21, lines 5-66; col. 13, lines 34-52).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Kubo et al of record (US 5,977,563).

Note Figs. 10-12 which identically disclose the claimed LCD apparatus comprising an auxiliary capacitance line (19a), a pixel electrode 5 disposed on an interlayer insulating film 18 and electrically connected to a drain electrode of the TFT via a contact hole 18a wherein the interlayer insulating film and liquid crystal layer (not shown, col. 1, lines 13-16) are disposed so as to overlie a diverted portion (19) which is diverted from the auxiliary capacitance line (col. 4, lines 4-64).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

Art Unit: 2871

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 63-136076 (JP'076) cited by Applicant.

Note Fig. 1 which identically disclose the claimed LCD comprising an opening (cutaway or cut-out) formed at a periphery (which is proximate to the signal line 2, as compared to lower right periphery of the pixel electrode) of the pixel electrode 6 to expose a potential correction site provided therebeneath. Also, see CLAIM of the partial translation. Note that the pixel electrode 6 of Fig. 2 does not have a cutaway or cut-out portion.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being obvious over Fujikawa et al (US 5,995,178) in view of JP 63-136076 (JP'076).

The only difference between Fujikawa's LCD and that of the instant claims is the drain electrode or the gate electrode having a narrowed width. However, the JP'076 discloses in Fig. 1 that it was known to employ a drain electrode and a gate electrode having a narrowed width. Thus, it would have been obvious to a person of ordinary skill in the art in view of the JP'076 to employ a drain electrode or a gate electrode having a

Art Unit: 2871

narrowed width as a potential correction site for saving energy and time in the cutting of the defected site, as compared to a drain electrode or a gate electrode having a larger width.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-136076 (JP'076) in view of Kubo et al of record (US 5,977,563).

The only difference between the LCD of JP'076 and that of the instant claims is an auxiliary capacitance line having a narrowed width portion of the branch of the auxiliary line. However, Kubo et al disclose in Fig. 6 that it was known to employ the auxiliary capacitance line having a narrowed width portion of the branch of the auxiliary line. Thus, it would have been obvious to a person of ordinary skill in the art in view of the JP'076 to employ the auxiliary capacitance line having a narrowed width portion of the branch of the auxiliary line for maintaining the pixel voltage during the frame time (as compared to the LCD without auxiliary capacitor) and for saving energy and time in the cutting of the defected site, as compared to a drain electrode or a gate electrode having a larger width.

Applicant's arguments with respect to claims 1-11 and 15-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 12-14 and 27 would be allowable over the prior art of record because none of the prior art discloses or suggests "the pixel electrode is provided with an opening formed in a *region on part of the diverted portion of the auxiliary capacitance*

Art Unit: 2871

line” or “an interlayer insulation film generally formed beneath the pixel electrode but not beneath the opening which exposes the potential correction site”.

Claims 28-36 are allowed over the prior art of record because none of the prior art of record discloses or suggests a LCD apparatus comprising “an opening formed in the pixel electrode to expose a potential correction site provided there beneath; an interlayer insulation film generally formed beneath the pixel electrode but not beneath the opening which exposes the potential correction site” (claim 28); an LCD apparatus with the opening(s) and the first and second correction sites having particular structures as recited in claims 32-34.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.


Huy Mai
Primary Examiner


TVD